

REMARKS

The above amendments and the below remarks are responsive to the Office Action, dated October 6, 2005, entered in the above referenced pending application. The amendments are summarized below.

Amendments to the Specification

The Specification has been amended to correct an obvious error in Formula II. No new matter is introduced.

The Abstract has been amended to delete the second paragraph and correct the phrasing. The basis for the corrections can be found in Claim 1, as originally filed. No new matter is introduced.

Amendments to the Claims

Claims 8, 12-14, and 16 are canceled. Claims 29-32 are added. The pending claims are 1-7, 9-11, 15, and 17-32.

Claims 1, 17, 22, 27, and 28 are amended to delete hydride and incorporate the subject matter of original Claim 8, where m is an integer from 1 through 20. No new matter is introduced.

Claims 10, 18, and 23 are amended to change "hydrides" to "hydride". No new matter is introduced.

Claim 9 is amended to be dependent upon Claim 1 instead of canceled Claim 8. No new matter is introduced.

Claim 15 is amended to clarify the second ligand. The basis for this can be found in Example 3 (page 12, line 31) and associated Figure 6. No new matter is introduced.

Newly added Claim 29 is original Claim 12, rewritten in independent form. No new matter is introduced.

Newly added Claim 30 is original Claim 14, rewritten in independent form. It is clear from Example 1 and associated Figure 3, that "Ph" indicates phenyl. It is clear from Example 4 and associated Figure 7, that "Bz" indicates benzyl. No new matter is introduced.

Newly added Claim 31 recites the compounds disclosed in Examples 1-6 and shown in associated Figures 3 and 5-9. No new matter is introduced.

Newly added Claim 32 recites a composition having specific values for Formula III. Support for this can be found at page 6, line 10. No new matter is introduced.

Replacement Drawings

The replacement drawings do not alter the original drawings. Figure 2 has been enlarged and made clearer.

Objections

The Examiner objected to the drawings because the details in Figure 2 were too unclear to be accurately reproducible. Replacement drawing sheets, in which Figure 2 is clearer, are being submitted herewith.

The Examiner objected to the abstract as not being in single paragraph form and including phrases which can be implied. Applicants respectfully submit that the amendments to the abstract have overcome this objection.

The Examiner objected to the disclosure because of an obvious error in the double bond structure of Formula II. Applicants respectfully submit that the amendments to the Specification have overcome this objection.

Applicants respectfully request that the objections be withdrawn.

Rejection under 35 U.S.C. § 112

Claims 6, 7, 10, 13-16, 18 and 23 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claim 6 was indicated to be indefinite as containing an obvious error in the double bond structure of Formula II. Claim 6 as amended herein has the correct structure for Formula II.

Claims 10, 18, and 23 were indicated to be indefinite because of the term "hydrides". These claims, as amended herein, recite "hydride" in the singular.

The claims were indicated to be indefinite because of the abbreviations PBz₃, PPh₂Bz and PPh₂. These abbreviations do not occur in the Claims as amended herein.

Claim 15 was indicated to be indefinite with respect to the second ligand. Claim 15 as amended herein recites the chemical name of the second ligand.

Claim 16 was indicated to be indefinite for lack of proper antecedent basis. Claim 16 has been canceled.

Applicants respectfully submit that all of these rejections have been overcome by the amendments herein, and request that the rejections be withdrawn.

Rejection under 35 U.S.C. § 102

1. Igarishi et al., U.S. Published Application No. US 2001/0019782

Claims 1-8, 10, 11 and 17-28 were rejected under 35 U.S.C. § 102(a) as being anticipated by Igarishi et al., U.S. Published Application No. US 2001/0019782 ("Igarishi 1"). Applicants respectfully submit that this rejection has been overcome.

Igarishi 1 discloses iridium complexes having one or more ligands coordinated through a nitrogen in a heteroaromatic ring and a carbon in an aromatic ring. However, *Igarishi 1* does not teach or suggest a ligand having Formula III as recited in Claims 1, 17, 22, 27, and 28, as amended herein. Nor does *Igarishi 1* teach or suggest the specific compounds recited in newly added Claims 29-31. The remaining Claims are dependent on Claim 1, 17, or 22, and thus are also not taught or suggested by *Igarishi 1*.

Applicants respectfully request that this rejection be withdrawn.

2. Kawamura et al. in J. Appl. Phys. 92(1), pp. 87-93 (7/1/02)

Claims 1-8, 10, 11, and 17-28 were rejected under et U.S.C. § 102(b) as being anticipated by Kawamura et al. in J. Appl. Phys. 92(1), pp. 87-93 (7/1/02) ("*Kawamura*"). Applicants respectfully submit that this rejection has been overcome.

Kawamura discloses iridium complexes cyclometalated with phenylpyridine or phenylbenzothiazole ligands, and further coordinated with acetylacetone or picoline. However, *Kawamura* does not teach or suggest a ligand having Formula III as recited in Claims 1, 17, 22, 27, and 28, as amended herein. Nor does *Kawamura* teach or suggest the specific compounds recited in newly added Claims 29-31. The remaining Claims are dependent on Claim 1, 17, or 22, and thus are also not taught or suggested by *Kawamura*.

Applicants respectfully request that this rejection be withdrawn.

3. Igarishi et al., U.S. Published Application No. US 2002/0048689

Claims 1-11 and 17-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by Igarishi et al., U.S. Published Application No. US 2002/0048689 ("*Igarishi 2*"). Applicants respectfully submit that this rejection has been overcome.

Igarishi 2 discloses iridium complexes having at least one ligand coordinated through phosphorus. *Igarishi 2* also discloses complexes which additionally have one or more ligands coordinated through a nitrogen in a heteroaromatic ring and a carbon in an aromatic ring. However, *Igarishi 2* does not teach or suggest a ligand having Formula III as recited in Claims 1, 17, 22, 27, and 28, as amended herein. The phosphorus-containing ligands disclosed by *Igarishi 2* do not have at least one CH₂ group between a phosphorus coordinated to iridium and an aromatic group which is coordinated to the iridium. Nor does *Igarishi 2* teach or suggest the specific compounds recited in newly added Claims 29-31. The remaining Claims are dependent on Claim 1, 17, or 22, and thus are also not taught or suggested by *Igarishi 2*.

Applicants respectfully request that this rejection be withdrawn.

4. Lamansky et al., Published PCT Application No. WO 02/15645

Claims 1-11 and 17-28 were rejected under 35 U.S.C. § 102(b) as being anticipated by Lamansky et al., Published PCT Application No. WO 02/15645 ("*Lamansky*"). Applicants respectfully submit that this rejection has been overcome.

Lamansky discloses iridium complexes having at least one mono-anionic, bidentate, carbon coordination ligand coordinated through carbon and a heteroatom such as N, S, or O. The complexes have at least one second ligand that is different from the bidentate ligand. However, *Lamansky* does not teach or suggest a ligand having Formula III as recited in Claims 1, 17, 22, 27, and 28, as amended herein. Nor does *Lamansky* teach or suggest the specific compounds recited in newly added Claims 29-31. The remaining Claims are dependent on Claim 1, 17, or 22, and thus are also not taught or suggested by *Lamansky*.

Applicants respectfully request that this rejection be withdrawn.

Rejection under 35 U.S.C. § 103

Claims 1-12 and 16-28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamansky et al., Published PCT Application No. WO 02/15645 ("*Lamansky*"). Applicants respectfully submit that this rejection has been overcome.

With respect to Claims 1-7, 9-11, 15, and 17-28, and newly added Claim 32, *Lamansky* does not teach or suggest a ligand having Formula III, as discussed above. None of the generic or specific ligands of *Lamansky*, as shown in Figures 5a through 6c and the claims, teaches or suggests a ligand coordinated through a carbon on an aromatic ring and a heteroatom, where the heteroatom is joined to the aromatic ring with at least one CH₂ group.

With respect to newly added Claims 29-31, *Lamansky* does not teach or suggest these specific compounds. Although *Lamansky* does disclose the "-R" can be a ligand, where R is hydrogen, halogen, alkyl, or aryl, there are no examples of hydride ligands. There are a great number of ligands disclosed, and there is no teaching to suggest which combinations of ligands to choose. There is no teaching to suggest a complex having a hydride ligand and two triarylphosphine ligands (Applicants' Claims 29 and 31). There is no teaching to suggest a complex having a hydride ligand and two diarylbenzylphosphine ligands (Applicants' Claims 30 and 31). There is no teaching to suggest a complex having a hydride ligand and two 2-diphenylphosphino-1,1-bistrifluoromethyl-ethanol ligands (Applicants' Claim 31).

Applicants respectfully request that this rejection be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicants submit that the above referenced pending application is in condition for allowance. A Notice of Allowance for Claims 1-7, 9-11, 15, and 17-32 is therefore earnestly solicited.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Patricia M. Scott".

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